



Hoot Out!



Bonnyvale Environmental Education Center School Programs Stories Fall & Winter 2022-23

Thank you to Academy, Green Street, Oak Grove, Dummerston, Putney, Vernon, Hinsdale and Marlboro schools for the fun learning experiences with teachers and students this past fall and winter! BEEC's programs helped classes take their science curriculum out into the natural world.

BEEC's winter sports programs provide the opportunity for students to explore winter survival strategies.

Here are a few highlights, stories, and photos from programs with BEEC's naturalist educators Ellen Peters, Sarah Tsalbins, and Kristina Weeks.

Science Classes



Pre-K: Autumn Ambles

Students tromped around in the forest one unseasonably warm day, searching for signs of animal shelter and were surprised to find a very large beetle pupa in the mud at the base of a tree. Excited shouts of "I found something! Come quick!" We used the opportunity to review the life cycle of insects from egg to larva, to pupa to adult insect. Students acted out being an egg, a squirming larva, a sleeping pupa, and an emerging insect of their choice — lots of butterflies! The teacher put the pupa in a terrarium to further observe this amazing life cycle.

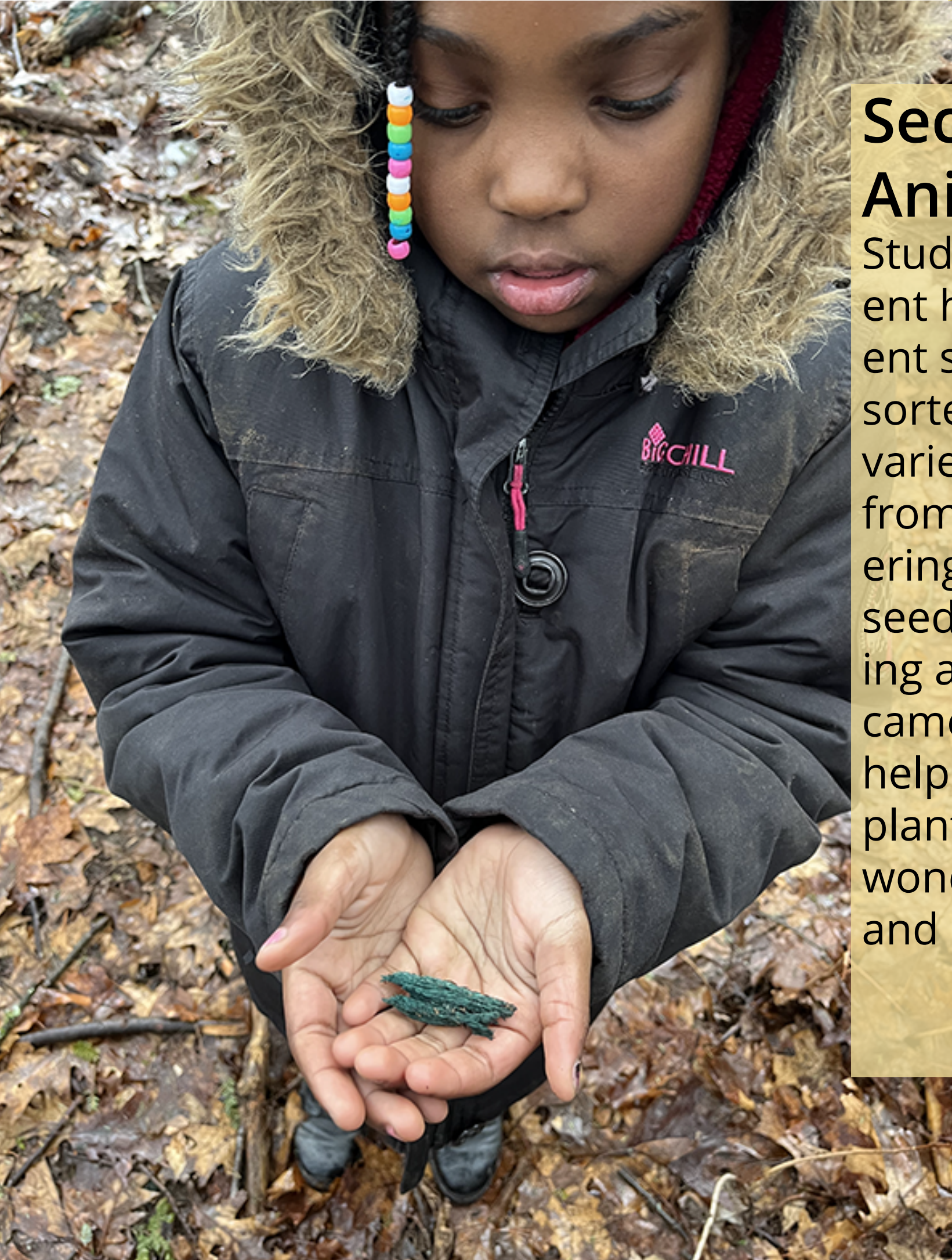


Kindergarten: Fall Caching

Students learned about how animals meet their survival needs by “becoming” little rodents and scampering around, tasked with building shelter, finding food and water, and caching nuts and seeds to eat later. Afterward they did their best to find their hidden food and to “eat” it in the manner of their chosen animal. The gray squirrels found a favorite perch, the chipmunks sought out a rock or stump to bring them above ground level, and the little mice nibbled in protected places. Some children couldn’t find their cached food which helped us discover that a forgotten seed might grow into a new tree. We loved thinking about how the actions of tiny rodents can make a BIG change in their environment!

First Grade: Amazing Animals

Learning from animals with super-senses, students expanded their own sensory awareness. They loved reaching into the touch bags and using their sense of touch, like a raccoon, to figure out what they were touching. We love seeing the looks on their faces; usually starting out with a confused face scrunching and then—ah-ahaa! They became baby bear cubs trying to identify their mothers using their sense of smell. One first grader was heard exclaiming, “This smells like my mother’s armpits!” - it was lavender essential oil. Later they used their sense of hearing as coyotes to find their own packs using agreed upon yips and barks to locate their family and warn of intruders with growls. Some students took this challenge very seriously, really closing their eyes and listening carefully.



Second Grade: Animal Helpers

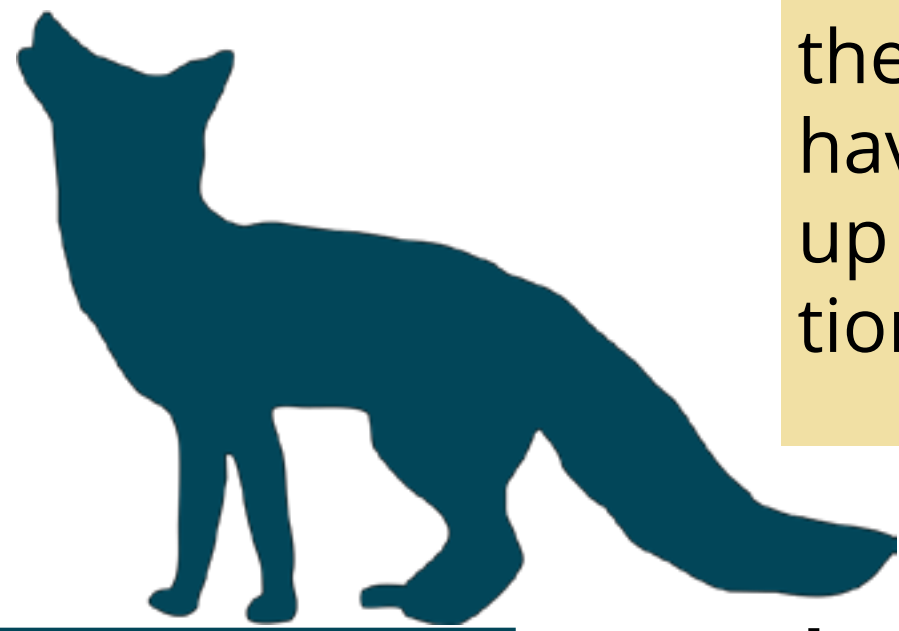
Students went on a hike through different habitats, collecting as many different seeds as they could find. We then sorted the seeds, thinking about the variety of ways those seeds could travel from one place to another, and considering the role of animals in helping the seeds disperse. Through games mimicking animals dispersing seeds, it soon became clear that while the animals were helping the plants, in many cases the plants were helping the animals too. A wonderful relationship between plants and animals!





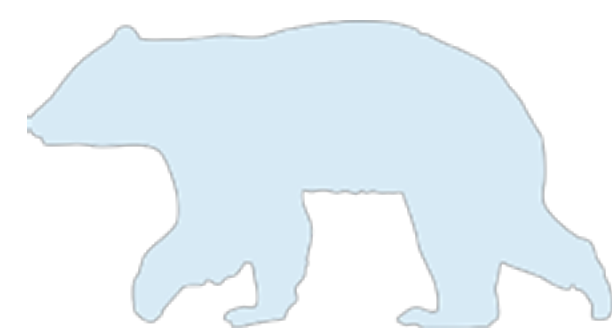
Third Grade: Bird Adaptations

Keen-eyed students spotted a great diversity of feathered friends on their bird hikes. Students played games mimicking songbird companion calling practices, and performed short skits for their classmates demonstrating bird alarm call procedures. One alarm call behavior is known as “popcorn”—a student pretends to be a red fox moving through an area populated by songbirds. As the predator enters the scene the other students act out songbird behavior, calling out in alarm as they pop up and down to indicate the fox's direction and speed of approach.



Fourth Grade: Mammal Skulls & Senses

One student who knew we were learning about skulls brought in a skull that he had found with his grandfather in the woods. They didn't know what it was and this was the perfect opportunity to solve the mystery! While other students observed the skulls from the classroom kit, this child used his skull from home. Students got busy and counted teeth, sharp and blunt, measured nasal passages, checked for the size of the auditory bullae and whether the eye sockets are in the front or on the sides (eyes in front hunts, eyes on side hides!). Once they gathered all of this data, students made an educated guess about their mystery skull and were elated to be mostly successful, especially the student with the real skull who determined it was a raccoon. “I knew it!!” he exclaimed excitedly.



Fifth Grade: Predator-Prey Model

Modeling interdependent relationships within a forest ecosystem, students “became” herbivores, omnivores and carnivores. The students met the survival needs of their assigned organisms by seeking out food and water sources and attempting to escape predation and/or find prey. The simulation played out as a lively game, in which students experimented with different survival strategies. Several herbivores shared water and food sources, one omnivore spent most of the game camouflaged in a pile of brush, and two carnivores teamed up to corner prey. To add an extra layer of challenge to the final round, edu-

cators became diseases, severe weather, and/or human-caused hazards. The model culminated in a rich discussion of interconnection, and how changes in an environment affect the food web. Students also contemplated ways the model was and was not realistic, and considered actions they could take to support the ongoing vibrancy of local ecosystems.



Sixth Grade: Tracks & Signs of Ecosystem Interactions

After an introduction to tracking in the classroom, students headed out to search for tracks and signs in the forest. We framed our excursions with the question, "What do the clues animals leave behind tell us about ecosystem interactions?" The students proved to be attentive and curious tracking detectives! One trio found what appeared to be cached remains of a crow. A few small groups identified deer prints and followed their trails which led to other signs including deer scat. Students wondered what the deer might eat during the winter which led to a search for browsed twigs, nibbled buds and half-eaten mushrooms. We made the connection to their ecosystem studies by considering the ways that signs of animals feeding can help us understand the different ways that matter cycles and energy flows within the forest ecosystem.



Winter Outdoor Adventures

Grades K - 1: Wonderful Winter World



Venturing out around their school, students discovered the lives of animals in the winter world. We searched for signs of food and shelter for a variety of animals, and enjoyed activities and games mimicking their behaviors. We called and listened for chickadees and crows, slid on our bellies like otters, became nuthatches hiding seeds in bark crevices, followed the tracks of squirrels and foxes, took a closer look at snowflakes, played a game of weasel and voles tunneling in the snow, found a spider on a twig in the snow playing a game of camouflage with us, and built shelters for our animal friends.

Grades 1 - 3: Active Animals take Shelter

Students enjoyed exploring the forest, finding tracks and signs of animals, and building shelters for the animals of the forest. Students particularly enjoyed playing trail games and acting out animal strategies for staying warm. A favorite action for keeping warm was inspired by flying squirrels. Unlike red and gray squirrels, flying squirrels do not fatten up for winter or grow thicker coats. Instead, they cuddle together in groups in their cozy nests within tree hollows to keep warm. With the call "flying squirrel!" students gleefully huddled up together while fresh snow fell around them.

We looked for animal shelters and imagined ourselves as different animals seeking out and finding safety within brush, burrows and dens, then created little animal shelters using materials from nature. Student creations demonstrated a range of inventive strategies for keeping warmth in and predators out!



Grades 4 - 6: Winter Survival

For a Shelter Challenge, students considered the location, the materials available, and how to be protected from the elements. Some groups had to keep searching for a good location due to hazards encountered—a great learning experience. As the winter conditions changed, groups used different materials and strategies to build their shelters to stay warm and dry. Some groups were building debris shelters with branches and leaves, others built quinzhees with mountains of snow, and some made shelters combining both.

For their Fire Challenge, students experimented with different tinder materials, including birch bark, goldenrod seed-head fluff, dry beech leaves, and char-cloth. They practiced using a striker to create sparks to ignite their tinder bundles — a task more challenging than they had anticipated! After a good try some students were ready for their one match challenge. Other students demonstrated impressive determination. Trial and error eventually coaxed tiny sparks into flame. Their lit tinder bundles were carefully added to a central fire over which they boiled water for tea made from hemlock and white pine needles.



*Let's do it
again next year!*

